

SUMMARY

PROGRAM FOR THE DEVELOPMENT OF MACHINE INDEXING

Easy and rapid accessibility of information in a central file is a prerequisite to prompt production of intelligence. Recognition of the advantages of research in the field of information methodology led OSI, in cooperation with the CIA Management Advisor, to establish an experimental program [REDACTED], under Contract IG-447, (CIA Project OSI-57-51) to explore the possibility of developing indexes which can be searched by automatic equipment. This experimental work was conducted in the field of agriculture. The machines used were specially designed and constructed [REDACTED] for the purpose of searching and correlating information.

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This exploratory work has opened up the possibility of developing indexing methods for machine searching on a scale adequate to serve CIA's reference library requirements. This evaluation is based on the exploratory work itself and on demonstrations staged for CIA personnel. These new indexing methods, when worked out in final form, give promise of achieving considerable savings in manpower and cost while rendering a reference service of greatly improved effectiveness. The next phase of this program should be on a scale analogous to the pilot plant in a chemical development. The steps to be taken are the following:

1. Recasting the existing CIA Intelligence Subject Code so that it may serve as a general framework for the detailed machine indexing system.
2. Developing the new system in detail for the field of agriculture. A portion of the work required in this connection has already been done [REDACTED] in the previous project.
3. Testing the indexing system developed for agriculture by indexing intelligence information in that field and conducting mechanized searches.
4. Development of an indexing system for other branches of natural science and technology, and for economic and industrial fields. This is a large task whose accomplishment in full detail will require considerable effort. Our immediate goal is a preliminary form of such a general indexing system.
5. A broad program of investigation - theoretical in nature - of the underlying logic and mathematics of indexing methods and machine operations. The results of this study will guide us in setting up our over-all indexing system in final form.

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The establishment and administration of this program will be facilitated by setting it up [REDACTED] where the previous work was conducted. Our development program is to be under the direction of [REDACTED] who was in charge of the previous exploratory investigation, and who has been a CIA consultant for the past two years. [REDACTED] will be advised and guided in this work by a steering committee under the chairmanship of [REDACTED] who, in his capacity as Executive Secretary of the Interdepartmental Committee on Scientific Research and Development, has acquired unusual insight into scientific information problems facing government agencies. A small full-time group of ten to fifteen persons will be set up to work under [REDACTED] Experts in various fields of science and technology will be employed on a consulting basis to assist with technical problems encountered in developing the indexing system.

The cost of this program is estimated at \$75,000. for FY 1952.

We have assurance of [REDACTED] support of this work with regard to providing needed equipment. Experience gained in the experiments and demonstrations will be used as a basis for developing details of machine design with [REDACTED] experimental engineers.

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